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भारतीय मानक

चाय – 103° सेंटिग्रेड़ पर द्रव्यमान में क्षति ज्ञात करना

Indian Standard

TEA — DETERMINATION OF LOSS IN MASS AT 103°C

UDC 663·95 : 531·753

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 1994 **Price Group 1**

Stimulant Foods Sectional Committee, FAD 23

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 1573 : 1980 'Tea — Determination of loss in mass at 103°C' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Stimulant Foods Sectional Committee (FAD 23), and approval of the Food and Agriculture Division Council.

In the adopted standard certain terminology and conventions are not identical with those used in Indian Standards; attention is drawn specially to the following:

a) Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'Indian Standard'; and

b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

CROSS REFERENCES

In this adopted standard, reference appears to ISO 1839 : 1980. The Indian Standard IS 3611 : 1975 'Method of sampling for tea (*first revision*)' which is technically equivalent to ISO 1839 : 1980 is to be substituted in its place.

In reporting the results of a test or analysis, made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

TEA — DETERMINATION OF LOSS IN MASS AT 103°C

0 Introduction

The loss in mass when tea is heated in air at a temperature near 100°C is conventionally designated as *moisture*, the contribution made by small amounts of other volatile constituents being regarded as negligible for practical purposes. In some other International Standards for oven-drying methods, the expression *moisture and volatile matter* has been used, to take account of the fact that the loss in mass may not be wholly due to moisture. There is an objection to the use of this expression in the case of tea, however, since tea contains volatile compounds which do not contribute appreciably to the loss in mass on heating in air at a temperature near 100°C but may be removed by other means, for example steam distillation. To avoid possible confusion, the expression loss in mass at 103°C has been adopted in this International Standard.

1 Scope and field of application

This International Standard specifies a method for the determination of the loss in mass when tea is heated in air at 103°C.

2 Reference

ISO 1839, *Tea — Sampling.*

3 Principle

Heating a test portion of the tea in an oven at 103 ±2°C, to constant mass.

4 Apparatus

Usual laboratory apparatus, and the following items:

4.1 Weighing Bottle, squat form, with airtight lid.

4.2 Constant-Temperature Oven, capable of being controlled at 103 ± 2°C.

4.3 Desiccator, containing an efficient desiccant.

4.4 Analytical balance.

5 Sampling

Sample the tea in accordance with ISO 1839.

6 Procedure

6.1 Preparation of weighing bottle

Remove the lid from the weighing bottle (4.1) and heat both for 1 h in the oven (4.2) at 103 ± 2°C. Cool in the desiccator (4.3). After cooling, fit the lid and weigh to the nearest 0,001 g.

6.2 Preparation of test sample

Thoroughly mix the sample of tea as received.

6.3 Test portion

Weigh, to the nearest 0,001 g, about 5 g of the test sample into the prepared weighing bottle (6.1).

6.4 Determination

Heat the weighing bottle and contents, with the lid removed but alongside the bottle, in the oven (4.2) at 103 ± 2°C for 6 h. Cool in the desiccator (4.3), fit the lid and weigh. Return the bottle and its lid to the oven and heat again for 1 h, cool in the desiccator, fit the lid, and weigh; repeat these operations, if necessary, until the difference between two successive weighings does not exceed 0·005 g.

If the mass of the test portion increases after repeated heating, calculate the result from the weighing immediately before the mass started to increase.

6.5 Number of determinations

Carry out two separate determinations on the same prepared test sample (6.2).

7 Note on drying procedure

In general, a single 16 h period in the oven at 103 ± 2°C gives equivalent results, but it is the responsibility of the analyst to confirm this in each particular case.

8 Expression of Results

8.1 Method of Calculation and Formula

The loss in mass at 103°C, expressed as a percentage by mass of the sample, is given by the formula:

$$(m_0 - m_1) \times \frac{100}{m_0}$$

where

m_0 is the initial mass, in grams, of the test portion;

m_1 is the mass, in grams, of the dried test portion.

Take as the result the arithmetic mean of the two determinations, provided that the requirement for repeatability (*see* 8.2) is satisfied.

8.2 Repeatability

The difference between the results of two determinations, carried out simultaneously or in rapid succession by the same analyst, shall not exceed 0,3 g per 100 g of sample.

9 Test report

The test report shall show the method used and the result obtained. It shall also mention any operating details not specified in this International Standard, or regarded as optional, as well as any circumstances that may have influenced the result.

The report shall include all details required for complete identification of the sample.

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